

Composting Facility

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - practice code 317



DEFINITION

A composting facility is installed for biological stabilization of waste organic material.

PRACTICE INFORMATION

The purpose of this practice is to biologically treat waste organic material and produce humus-like material that can be recycled as a soil amendment or organic fertilizer. The material may also be used by other acceptable methods of recycling that comply with laws, rules and regulations.

Composting is accomplished by mixing an energy source (carbonaceous) with a nutrient source (nitrogenous) in a prescribed manner to meet aerobic bacteria requirements. Correct proportions of ingredients are essential to minimize odors and avoid pest problems. Waste material for composting may include livestock and poultry manure, dead animal carcasses, and food processing material when it is considered part of a normal farm operation.

This practice applies where: (1) waste organic material is generated by agriculture production or processing, (2) composting is needed to manage the waste organic material properly, (3) an overall waste management system has

been planned that accounts for the end use of the composted material. The three types of composting facilities covered in the NRCS Composting Facility standard are:

- **Aerated windrows** - Suited for large volumes of organic material managed by power equipment used to periodically turn the composting material.
- **Static piles** - The material is initially mixed into a homogeneous mixture that has the proper moisture content and bulk density to facilitate air movement throughout the pile without periodically turning the material. Forced air might be necessary to facilitate the composting process.
- **In-vessel** - An enclosed structure is used to contain a blended mixture of organic waste that is strictly controlled for optimum air and temperature. In-vessel composting also includes naturally aerated systems where organic materials are layered in a container and turned once during the composting process.

Additional information including design criteria and specifications is available in the local NRCS Field Office Technical Guide.

The following pages list the conservation effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, and soil. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

CONSERVATION PRACTICE PHYSICAL EFFECT WORKSHEET

NOTE: recorded in Microsoft word 6.0 - use tabs to change cells/fields

STATE	Iowa	FIELD OFFICE		DATE	12/5/96
PRACTICE: 317 Composting Facility			NOTES: The effects of applying composted material to the land is covered in Waste Utilization (633).		
RESOURCE: SOIL			Help Message: Click on form field for choice lists. Tab key to move around. "N/A" is the default.		
RESOURCE CONCERN: EROSION					
RESOURCE INDICATORS			PHYSICAL EFFECTS		
SHEET AND RILL			N/A		
WIND			N/A		
EPHEMERAL GULLY			N/A		
CLASSIC GULLY			N/A		
STREAMBANK			N/A		
IRRIGATION INDUCED			N/A		
SOIL MASS MOVEMENT			N/A		
ROADBANK/CONSTRUCTION			N/A		
OTHER					
RESOURCE CONCERN: SOIL CONDITION					
SOIL TILTH			N/A		
SOIL COMPACTION			N/A		
SOIL CONTAMINATION					
• SALTS			N/A		
• ORGANICS			N/A		
• FERTILIZERS			N/A		
• PESTICIDES			N/A		
• OTHER					
DEPOSITION/DAMAGE					
• ONSITE			N/A		
• OFFSITE			N/A		
DEPOSITION/SAFETY					
• ONSITE			N/A		
• OFFSITE			N/A		
OTHER					
RESOURCE: WATER					
RESOURCE CONCERN: WATER QUANTITY					
SEEPS			N/A		
RUNOFF/FLOODING			N/A		
EXCESS SUBSURFACE WATER			N/A		
INADEQUATE OUTLETS			N/A		
WATER MGT. IRRIGATION					
• SURFACE			N/A		
• SPRINKLER			N/A		
WATER MGT. NON-IRRIGATED			N/A		
RESTRICTED FLOW CAPACITY (H20 convey.)					
• ONSITE			N/A		
• OFFSITE			N/A		
RESTRICTED STORAGE			N/A		
OTHER					

RESOURCE: WATER	
RESOURCE CONCERN: WATER QUALITY	
RESOURCE	PHYSICAL EFFECTS
GROUNDWATER CONTAMINANTS	
• PESTICIDES	N/A
• NUTRIENTS AND ORGANICS	moderate poten. decrease/GWater contam./nutr,organ
• SALINITY	N/A
• HEAVY METALS	insignificant
• PATHOGENS	moderate poten. decrease/GWater contam./pathegens
• OTHER	
SURFACE WATER CONTAMINANTS	
• PESTICIDES	insignificant
• NUTRIENTS AND ORGANICS	sign. reduction in SWater contam./nutri.,organics
• SUSPENDED SEDIMENTS	N/A
• LOW DESOLVED OXYGEN	moderate reduction in SWater contam./low oxygen
• SALINITY	insignificant
• HEAVY METALS	insignificant
• WATER TEMPERATURE	N/A
• PATHOGENS	moderate decrease in SWater contam./pathegens
AQUATIC HABITAT SUITABILITY	moderate improvement in Aqua. Hab. Suit.
OTHER	
RESOURCE: AIR	
RESOURCE CONCERN: AIR QUALITY	
AIRBORNE SEDIMENT AND SMOKE PARTICLES	
• ONSITE SAFETY	N/A
• OFFSITE SAFETY	N/A
• ONSITE STRUCT. PROBLEMS	N/A
• OFFSITE STRUCT. PROBLEMS	N/A
• ONSITE HEALTH	N/A
• OFFSITE HEALTH	N/A
AIRBORNE SEDIMENT CAUSING CONVEYANCE PROBLEMS	N/A
AIRBORNE CHEMICAL DRIFT	N/A
AIRBORNE ODORS	N/A
FUNGI, MOLDS, AND POLLEN	N/A
OTHER	
RESOURCE CONCERN: AIR CONDITION	
AIR TEMPERATURE	N/A
AIR MOVEMENT (windbreak effect)	N/A
HUMIDITY	N/A
OTHER	

[illegible]

RESOURCE: HUMAN	
RESOURCE CONCERN: SOCIAL CONSIDERATIONS	
RESOURCE INDICATORS	PHYSICAL EFFECTS
PUBLIC HEALTH AND SAFETY	sign. improvement in public health & safety
PRIVATE/PUBLIC VALUES	sign. improvement in private/public values
CLIENT CHARACTERISTICS	N/A
RISK TOLERANCE	N/A
TENURE	N/A
OTHER	
RESOURCE CONCERN: CULTURAL CONSIDERATIONS	
ABSENCE/PRESENCE OF CULTURAL RESOURCES	N/A
SIGNIFICANCE OF CULTURAL RESOURCES	N/A
MITIGATION OF NEGATIVE CULTURAL RES. IMPACTS	N/A
OTHER	